

The Presidential budget for fusion for fiscal year 1973-74 was \$44.5 million, \$7.5 million higher than the previous budget. The Joint Committee has authorized an additional \$8.5 million above the request, and this level was subsequently accepted in the AEC appropriations bill. The question is now whether the President will apportion this amount.

As Hirsch read the position paper to the Committee, he was interrupted by Craig Hosmer (R., Calif.), who asked, "Is your quotation deliberately, inadvertently or inescapably vague?" After Hirsch explained that they have not yet done their homework about detailed plans, Hosmer concluded, "Then I'd say you were inescapably vague." Hirsch then remarked, "I feel in an inescapable position."

Priorities. The position paper states that tokamaks presently do and will continue to receive primary emphasis in the US CTR program. In fact, these low-beta toroidal experiments receive about 60% of the money. The remaining 40% is split about equally between theta-pinch and magnetic-mirror experiments.

Future directions for low-beta toroidal research, the paper said, will include: demonstration of confinement at reactor-like conditions, the exploration of alternative toroidal configurations, other than tokamaks, and the testing of engineering features, such as divertors and fueling systems. The design of D-T burning systems will also proceed.

Hirsch told us that over the next two to four years, critical experiments will be done to determine whether or not to go ahead with D-T burning experiments in the magnetic-mirror and theta-pinch experiments. These are done primarily at Livermore and Los Alamos, respectively.

Tokamak experiments are underway at several laboratories. Hirsch particularly singled out the recent successes at the Adiabatic Toroidal Compressor at Princeton, the Ormak machine at Oak Ridge and the Doublet II at Gulf General Atomic. Recently, with the Princeton device, experimenters were able to do a low-power test of neutral beam heating, which resulted in an increase in ion energy of 20-25%, as predicted by theory. Furthermore, no harmful plasma instabilities were observed.

Besides these major advances, one can point to a lot of smaller-scale successes that suggest that understanding has advanced considerably, Hirsch said.

The Committee members questioned Hirsch closely about the progress of two other tokamak experiments, Alcator at MIT and the Texas Tokamak at the University of Texas. Hirsch admitted that the objectives of these two experiments have not been obtained yet, partially due to the difficulty of big-

machine operation in a university environment. "We have established goals and milestones for them in the coming year," he said. "Those goals and milestones are go, no-go."

In addition to the priorities that have been established in the Division's Confinement-Systems Program, Hirsch told us that he would like to see a far greater expansion of materials studies (conducted in the Technology Program) and of computer simulation of plasmas (conducted in the Research Program). Hirsch now believes that a realistic three-dimensional computer simulation of plasmas could be developed in the next three to five years.

After Hirsch discussed the organization of his Division, Hosmer asked, "Do you have a safety officer?" The answer was, "Yes." Hosmer went on, "Do you have an environmentalist?" Hirsch said, "To a degree, many of us in fusion are environmentalists of one type or another." Finally, Hosmer queried, "Have you got an antitrust man?"

Besides Hirsch, the Committee heard from AEC Commissioner Clarence Larson and representatives of the four major fusion laboratories. In his closing remarks, Chairman Price said that the Committee would fully support an acceleration in the program and wished AEC luck in the process. Hearings on laser pellet fusion are expected to take place soon.

—GBL

Technology study to use US Patent Office data

A vast source of technological information will be tapped as the newly established Office of Technological Assessment and Forecast makes information more available from the US Patent Office files. Monitoring changes in the 11 million documents in more than 85 000 categories will show "changing patterns of patent activity and should produce an accurate indication of technological activity throughout the world," said Betsy Ancker-Johnson, Assistant Secretary of Commerce for Science and Technology.

The analysis of overseas technological activity is possible due to the rising number of foreigners who take US patents—from 17% of the patents in 1961 to 31% in 1972. Policy makers will make use of data indicating which areas of endeavor show unusually rapid growth and in which areas foreigners are participating heavily.

The first publication from the office, *Technology Assessment and Forecast*, lists patent data by category and country of origin, along with sample reports drawn from specific technological fields. Economic data dealing with research and development expenses and

import-export information might be included in future studies.

Fusfeld to be Industrial Research Institute head

Herbert I. Fusfeld has been named president of the Industrial Research Institute, succeeding Walter L. Abel. Fusfeld is Director of Research for Kennecott Copper Corporation.

The IRI comprises 230 companies, mostly in the US, and serves, according to Fusfeld, "an increasingly important role in developing an effective interface between research in industry and those charged with research responsibilities in the governmental and academic sectors." Other IRI goals include encouraging interaction between research and other corporate functions and maintaining high standards in industrial research.

Other new officers named include N. Bruce Hannay, senior vice-president (who is vice-president for research, Bell Laboratories), and Arthur M. Bueche, vice-president (vice-president for research and development, General Electric Company).

in brief

The NSF report *Federal Support to Universities, Colleges, and Selected Nonprofit Institutions, Fiscal Year 1971*, can be obtained from the US Government Printing Office, Washington, D. C. 20402 for \$2.10.

The Polytechnic Institute of Brooklyn became the Polytechnic Institute of New York on 1 September, reflecting PIB's merger with New York University's School of Engineering and Science. The merger, authorized by the New York State Legislature, creates an institute based in Brooklyn, the Bronx, Manhattan and Farmingdale, N.Y.

A Committee of Scientific Society Presidents has been formed to help create a national science policy. The presidents, representing 13 societies and 200 000 members, will serve on the committee to study problems and issue public statements that express the consensus. American Chemical Society President Alan C. Nixon is the first committee chairman.

Science Council of Canada Report 26, *Government and Innovation*, is available from Information Canada, Ottawa, for \$3.75 per copy.

A National Academy of Sciences report, *Physics in Perspective, Vol. II, Part B: The Interfaces*, can be obtained from the National Academy of Sciences, 2101 Constitution Ave., Washington, D.C. 20418, for \$13.50.

A student edition of Vol. I, *Physics in Perspective: The Nature of Physics and the Subfields of Physics*, is available for \$5.00.

A four-year, \$470 000 National Research Council grant to the University of

Western Ontario will help the development there of a proposed Center for Interdisciplinary Studies in Chemical Physics.

Gary R. Gruber has been named Director of Public Relations for the New

York Academy of Sciences. Formerly assistant professor of physics and director of astronomy at Hofstra University, Gruber will continue to hold the title of senior research associate in physics at Hofstra.

the physics community

New APS aid for PhD's seeking academic jobs

PhD physicists have a new service to help them in the search for academic employment. The APS Doctoral Employment Information Service, run by the American Institute of Physics for the American Physical Society, starts operation this fall. It expands and replaces the Physics Post-Doctoral Information Pool (see *PHYSICS TODAY*, February 1972, page 68).

The individual physicist looking for academic employment, as well as academic institutions that need to fill vacancies requiring specialized knowledge can benefit from the Service. For the individual it offers wide exposure of his talents and reduces the number of applications that he must send out. For institutions it provides uniform, comprehensively indexed compilations of vitae.

Nine volumes of resumes and supporting data will be published by the Information Service. Eight of them will be classified on the basis of participants' research fields, and a ninth will list individuals interested primarily in teaching. Supplements to these volumes will be issued on a regular basis. Indexes listing physicists by research field and by PhD-granting institution, as well as an alphabetical index designed to permit fast and easy access to information, will enhance the utility of these resource books as an important base for employment consideration by academic institutions.

The Information Service will distribute complete sets of these materials to all domestic PhD-granting institutions at a nominal, non-obligatory charge. Institutions that grant bachelor's and master's degrees will be able to purchase separate resource volumes at cost. The material will also be made available for sale to industrial, governmental and non-profit laboratories as a supplement to their campus recruiting activities.

The Doctoral Employment Information Service complements but does not replace the AIP Employment Referral Service, which maintains files of information on the education, specialization and experience of registrants and which at the request of an employer searches its files for registrants meeting specific technical qualifications. The

Referral Service forwards information on all such candidates to employers for their employment consideration and negotiation.

The academic placement rate increases gradually during the fall months to a maximum in the period from December through February. Individuals who enroll by 15 October will have their materials included in the initial distribution scheduled for 1 November.

Both PhD physicists and candidates who expect to receive doctorates by September 1974 are eligible to register for the Service. Applications, brochures and other information have been distributed to physics departments and placement offices at institutions throughout the country. They also may be obtained from the Doctoral Employment Information Service, American Institute of Physics, 335 E. 45th St, New York, N. Y. 10017.

Marsh White awards: SPS calls for proposals

The Society of Physics Students has instituted the Marsh W. White Awards "to support projects designed to promote interest in physics among students and the general public." The Awards are named in honor of Marsh W. White, a former executive secretary and president of Sigma Pi Sigma, the honor society of the Society of Physics Students, and a past president of the American Association of Physics Teachers.

Proposals for awards in 1974 must be submitted to the SPS National Office by 15 November. The maximum budget for proposed projects in 1974 will be limited to \$100 although the budget limit is expected to be increased in future years. Several awards will be made each year to SPS chapters.

Four AIP societies to use separate renewal invoices

Renewal invoices for AIP society dues and journal subscriptions are being handled differently this year. In the past a single joint renewal invoice has been used for all member societies, but starting this year a number of societies are utilizing the invoices to ask their

members how they feel about specific society-related questions, to gather statistics and to solicit voluntary contributions.

For 1974 AIP will mail separate renewal invoices to members of the American Physical Society, the American Association of Physics Teachers, the Optical Society of America and the Acoustical Society of America. The mailing of these separate society invoices will vary according to mailing dates selected by the societies.

The traditional joint renewal invoice is being mailed only to members of the Society of Rheology, the American Crystallographic Association, the American Astronomical Society, the American Association of Physicists in Medicine and the American Vacuum Society.

In some cases individuals who are members of two or more societies may receive more than one invoice, each requiring attention.

AAS transfers an award and establishes a new one

The American Astronomical Society has transferred one of its awards to the American Association of University Women, and it has established a new award for outstanding work in observational and instrumental astronomy.

Following the recommendation of a select committee, the AAS has completed the transfer of the Annie J. Cannon Prize to the Educational Foundation of the AAUW, which will administer the award in the future. The Cannon Prize will hereafter be awarded as a research grant to a woman astronomer under 35. The Annie J. Cannon Prize Committee of the AAS will continue to function as an advisory committee to the AAUW Educational Foundation in matters relating to this award.

The Newton Lacy Pierce Prize was established recently through a grant from Mrs Beatrice Hess, the widow of the late N. L. Pierce. The award will be given to an astronomer under 35 for excellence in observational and instrumental astronomy. The recipient must be a resident of North America and must give a lecture to the Society at the time of the award. The Prize consists of \$1000, travel expenses and lecture publication costs. □